Food for Living

by Margaret Helder

As Christians, we understand that people from earliest times have made their living from farming. Cain and Abel, for example, had crops and herds. The patriarchs Abraham, Isaac and Jacob had huge flocks of sheep, goats, cattle, donkeys and camels. Such flocks needed large areas of pasture for grazing. Also in Isaiah 28: 24-25 we read about farmers sowing crops of dill, cumin, barley and wheat. These farmers ploughed and sowed seeds. Nobody suggested that they should leave nature undisturbed. Farmers in New Testament times also ploughed the land and sowed seed. Agriculture has always been regarded as a good thing. At the present time however, agriculture has become somewhat controversial.

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Dialogue

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Weather
Everybody's favourite topic

by Andrea Reitan

I started writing this on the Friday of the May long weekend. The wildfire smoke from northern Alberta was still reducing the visibility in Calgary, but I couldn't smell it that morning. It wasn't thick and dark like it was a couple of days earlier. On a clear day, I can see our 40 statutory miles (SM) visibility marker, the Rocky Mountains, but on that morning, the visibility was 5 SM. Weather observations are generally made in miles (for visibility) and feet (for cloud height) rather than metric. Visibility of 6 SM or less means I have to enter an obstruction to visibility in my observations (OBS) as well as put it in the weather duration in the Human Weather Observing System (HWOS). If the visibility drops below 3 SM, I have to send an extra OBS called a SPECI. The regular hourly OBS are called METARs. I called the obstruction, haze, that morning because I didn't smell smoke.

We have a ceilometer that points a laser straight up to measure how high the clouds are. Of course, it doesn't show anything if the clouds don't pass directly over or if they're more than 25,000 feet high. The clouds are divided into four "families": low, middle, high, and convective. The low, middle, and high clouds are defined by the height of their bases. Low clouds are 6500 feet and lower, middle clouds go from 6600 feet to 19,000 feet, and high clouds are from 20,000 feet and up. Convective clouds are named for the process that forms them—convection. This is when moist, warm air rises quickly and condenses into clouds that build up and up and up. Convection is what causes turbulence for aircraft.

The sky can be clear in the morning. Often, the first clouds I see forming are cumulus clouds. They look like popcorn coming up over the mountains. When they're closer, they look like floating cotton balls. If the cloud tops start to look hard and lumpy like cauliflower, those are convective clouds. They're either called tower-

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Elephant in the (Class) Room

In past ages, Christian faith had a large impact on society. This faith determined the laws, the festivals/holidays, attitudes to family and to the environment. Of course, none of these customs and values perfectly reflected biblical norms, but that was at least the hope. More recently the pervasive belief system of society has turned from God to evolution. This about face has changed society's values and hopes. Not least of these changes has been what society considers important to teach children. Soon we discover that evolution has become the foundation on which most curricula are based. This is the elephant in the (class) room. Attitudes in the public square, and attitudes in education, are based on a tacit acceptance of evolution, but nobody bothers to mention it.

Consider teaching about the environment in schools today. Nothing could appear more neutral, more values free. Parents may worry about evolution teaching, but they do not realize that their children have already absorbed evolutionary values in ecology. The first step for critical thinking on the environment is to find out what the Bible teaches concerning this issue. This may not be as difficult a challenge as one might suppose. It is helpful to consider what society valued in past generations when Christian values were important. Then compare "progressive" agendas with these former values. For example, if your children are being taught to be apologetic for mankind's use of the environment (like agriculture) to sustain their lives, this is an argument based on evolution which considers all life forms to be of equal importance rather than people occupying the pinnacle of creation.

Many countries today, for example, are drafting legislation which will close down many farms. The question of where suitable food will come from for their populations, is not considered by these legislators.

The idea today in most curricula on the environment is to promote long term strategies that prioritize environmental objectives over the needs of people living today. On the contrary, we should give thanks that our land produces abundant food and other resources to support our citizens and others around the world. Naturally we must continue to seek best practices in all these endeavours. In the dry 1930s for example, farmers on the prairies found that wind rows of trees or shrubs around their fields provided major benefits at very low cost. This application continues to provide benefits to this day. There is therefore no need to be apologetic when wise and careful use of the environment promotes the welfare of modern populations. Let's chase that elephant of evolutionary concepts on the environment out of the classroom!

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Meeting & Greeting

by Moxie

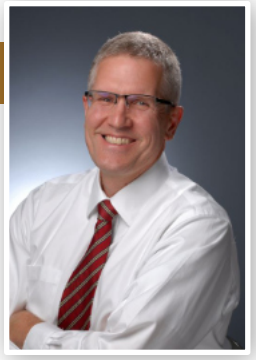
This spring, as is their custom, Creation Science Association of Alberta sponsored a book and information booth at Alberta Home Educators' conference in Red Deer. There are always many details to consider when planning for such a booth. The present inventory of resources must be assessed and books and DVDs ordered to top up the stock. Are there new titles which could be considered? These must be ordered as well. Among new publications this year were new curriculum texts, one available from AiG and one from CMI. {*God's Design for Life* from AiG and *Wonders of Creation: Design in a Fallen World* from CMI.) Like most texts, these are expensive but definitely worth the money. We also printed a new mini catalogue promoting the new titles.

One popular addition to our booth this year was our "Adopt a Pet" program. Andrea Reitan crafted beautiful small animal stuffies. Among the group were squid which came complete with a tag discussing the significance of

their design in creation. Other animals called tardigrades are actually tiny creatures in lakes and ponds. The stuffed toy variety came complete with a tag discussing their significant features and amazing design. There were other animal choices as well. Families which had purchased a minimum of $50.00 worth of resources, could pick a "pet" to adopt. This feature was very popular and caused much joy in the recipient families.

The whole point of providing a booth, as with our whole program, is to provide good information on science and faith and encouragement to interested people. There is nothing like the opportunity for personalized communication with interested individuals. May CSAA long be a source of blessings to many!

Come, join us at Creation Weekend 2023



Dr. Gordon Wilson featured speaker at **Creation Weekend October 27/28,2023.**

Many people love *The Riot and the Dance* cinematic celebrations of the creation. Dr. Gordon Wilson is the biologist and narrator of these films. Naturally these wonderful programs call our attention to only a small number of interesting stories from nature. But Dr. Wilson has a great store of interesting discussions on the significance of what nature displays! In his presentations he provides insights on the life cycles, diversity, and relationships of living creatures while at the same time acknowledging the impact of natural evil, a result of God's curse after the fall of man, which results in predators, parasites and disease impacting all creatures.

Five years ago, Dr. Wilson was our featured speaker at Creation Weekend. He was extremely well received by people of all ages. But we did not hear enough! Happily, Dr. Wilson has agreed to share more insights on the wonderful designs of creatures, both benign and threatening, and the ways in which we can live lives which show respect for the creation at the same time as we use these resources to provide for the lives of all peoples.

Dr. Wilson is Senior Fellow of Natural History at New Saint Andrews College in Moscow Idaho. He is author of *The Riot and the Dance* (2015) textbook on biology, and *A Different Shade of Green* (2019) a discussion of environmental issues. At New Saint Andrews he lectures on biology, entomology (insects), herpetology (reptiles), creation/evolution, marine biology and Genesis. He also frequently writes articles for Answers in Genesis magazine. *Check for details concerning times, place and presentation titles for Creation Weekend on our website.*

Weather: everybody's favourite topic

by Margaret Helder

Continued from page 1

ing cumulus (if their bases are 6500 feet or lower) or altocumulus castellanus (if their bases are 6600 feet or higher). If they continue building up and the top flattens out into an anvil, they become cumulonimbus. Cumulonimbus are the only clouds that can produce thunderstorms and hail.

Another classification for clouds is by their form: stratiform, cumuliform, and cirriform. Stratiform clouds form a layer and are composed of rolls or similarly-shaped elements. Cumuliform clouds tend to extend high into the sky and have individual bases. Cirriform clouds are high-level clouds and always consist of ice crystals, so they often look wispy and fibrous. In my OBS, I only have to know 14 different types of clouds. The International Cloud Atlas has many more (World Meteorological Organization 2017).

To estimate how much of the sky is covered by clouds or obstructions like haze, smoke, or fog, we divide it into eighths, called oktas. If you make an L-shape with your hand and hold it at arm's length with your thumb parallel along the horizon, your fingertip will reach about one okta up the sky. The sky is like a dome that you can divide like orange slices.

These are all practical issues concerning weather. Our society needs to be aware of such issues so that we can manage our lives and technology in safety. However, there are other implications of weather systems as well. God created a perfect world for us with Earth at just the right tilt on its axis to produce the four seasons—a natural system of complex interactions that balance each other out, called "dynamic equilibrium." The formation of mountain ranges and rearrangement of continents during the Flood would have changed the weather patterns, but the system for moving thermal energy and water around the entire globe still functions according to God's specifications.

Hot air rises, and cooler air moves in to replace it. This is what causes wind. The rising hot air also forms a low-pressure system. On weather maps, these are the systems that bring cold fronts from the north and warm fronts from the south. In the northern hemisphere, the winds in these systems generally move in a counter-clockwise direction spiralling into the center. Cold fronts often bring clouds that may produce rain or snow.

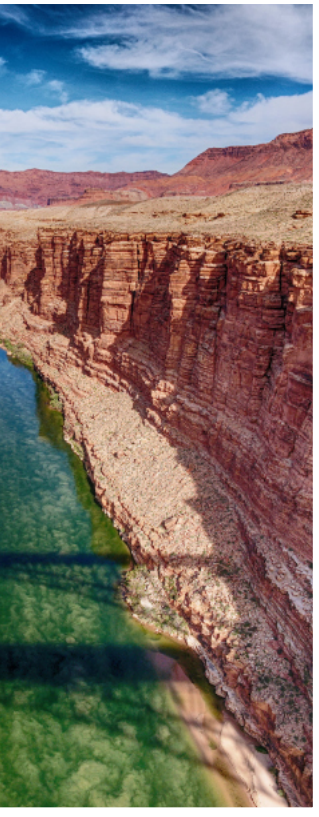
On the other hand, high-pressure systems are where cooler, denser air is sinking toward the surface. The winds in these systems push air out from the center in a clockwise direction in the northern hemisphere. High-pressure systems often, but not always, bring fair weather and clear skies. Low- and high-pressure systems alternate in a ring around Earth's poles as well as in bands at lower latitudes. This helps to move warm air from the equator toward the poles. These bands of low- and high-pressure systems also move air and weather systems across the continents. At Alberta's latitude, they move mainly from west to east.

God also engineered the hydrologic system to move water. Some people believe that it never rained before the Flood. I disagree with that because Genesis 2:6 says, "But there went up a mist from the earth, and watered the whole face of the ground." To me, this sounds like stratus clouds and drizzle. Stratus clouds often form only a few hundred feet above the ground. They tend to be grey and featureless. I call them "belly-crawlers" because that's how they seem to move. I've seen them approaching through a

valley, and ten minutes later, they block out the sun and reduce visibility. The difference in weather terminology between "mist/fog" and "drizzle" is that drizzle will leave tiny water droplets on your glasses. Stratus clouds don't usually have a lot of wind associated with them—usually just enough to move them along slowly.

Many people are in an uproar about climate change. They blame it for every natural disaster, whether that's a tornado, hurricane, or wildfire, and they're just getting more frantic every day. The thing is climate change is a fact. It's part of the reality we live in—a reality formed by sin and the Curse. The climate has been constantly changing since the Flood. The problem is that most people believe that the climate has been changing slowly over millions of years and that just in the last 150 years, it's been changing quickly. The supposed speed is assumed to be catastrophic, if not apocalyptic, but is it really true that we're destroying the world by using the fossil fuels God prepared for us during the Flood? Not really.

In *A Pocket Guide to Climate Change*, several creation scientists explain the data and give clear answers to questions about climate change. The overall picture shows that God engineered Earth's atmosphere and hydrologic cycle to operate within certain limits. Has Earth experienced higher temperatures than what we've seen in the last couple of hundred years? Maybe, particularly in the northern hemisphere. A thousand years ago, Vikings were growing crops in Greenland (Pocket Guide). One of my secular university textbooks even said that the Thule (ancestors of today's Inuit) were hunting bowhead whales in the Arctic Ocean at that time. This changed at the onset of the Little Ice Age (Bone p. 60). However, the last two chapters of the same textbook still push the "climate crisis" narrative.



On the other hand, we also know Earth has experienced much colder temperatures, such as the Ice Age that followed the Flood. The disasters we see today only seem more extreme because of how the secular scientists and media spin the story.

In a lot of cases, the damage is more expensive and extensive because people now live in areas where they didn't before and are concentrated in areas more prone to disasters such as hurricanes (everybody wants to live by the beach, right?). As Christians, we need to avoid getting swept up in the fear-mongering around climate change issues. God is in control, and as Genesis 8:22 says, "While the earth remains, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease."

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Food for Living!

by Margaret Helder

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Positive examples of agriculture

One of the developments that allowed more people to obtain adequate food, was research that led to more efficient crops. Naturally not all crops are suitable for all regions of the globe. The Canadian prairies, for example, with their short growing season, are definitely restricted in their choices of crop. But there are some Canadian success stories – wonderful crops which were developed in Canada and which have proved to be a blessing to many worldwide. These crops include wheat and canola.

Story of wheat development

From the time when the earliest European settlers landed in Canada, they brought wheat seeds along and attempted to grow them. But there were apparently no wheat selections which really suited the Canadian climate. Finally in the 1890s the Saunders family undertook to find a suitable wheat crop for Canadian farmers. The father, William, had been appointed director of the federal Experimental Farms Service. The best variety that Dr. Saunders could find was Red Fife, but it matured too late, especially in Western Canada. (Frozen crops weren't that appealing.)

The story of Red Fife is Canadian too. The seed for this variety came from the Ukraine via Scotland. A friend in Scotland sent the seed to Ontario farmer David Fife. This seed had better yield and better baking qualities than many other selections, but of course it wasn't really the answer for Canada. Dr. Saunders realized that he would have to breed wheat varieties to find a made in Canada solution. His attention focused on Hard Red Calcutta from India, which matured three weeks earlier than Red Fife, although its yield was not very good at all. Dr. Saunders then send son Percy to Agassiz B.C. to cross Hard Red Calcutta with Red Fife.

The results of this cross eventually became the Marquis variety. Son Charles set out to find the best results of the cross. He took several kernels from each promising head of wheat and chewed these kernels to make a dough ball in his mouth. He then removed the wad from his mouth and attempted to stretch it. The dough ball with the greatest elasticity showed most promise that it would bake into a good loaf of bread. His selection became the very popular Marquis variety. In 1907 in yield trials at Indian Head, Saskatchewan, Marquis matured 7-10 days earlier than Red Fife and yielded 42 more bushels an acre! In 1911 Marquis won a prize of $1000.00 from the Canadian Pacific Railway for the best wheat variety in Canada. The outstanding yield and baking quality of Marquis established Canada as the greatest wheat exporting nation in the world!

The scientists work was not done however. Marquis had one fatal flaw. It was very susceptible to the fungus disease wheat rust which could, and did in some years, wipe out an entire harvest. So the search was on for some descendants of Marquis wheat which were more resistant to wheat rust. Canadian scientist John Craigie (who lived to be 101), discovered that wheat rust strains had complicated genetics. He identified over 200 different strains of the fungus.

In 1935 the first wheat variety (Thatcher), resistant to some wheat rust strains, was released. But new wheat rust strains kept appearing which kept plant breeders looking for new wheat varieties that were resistant to other important rust strains. Selkirk, resistant to an important new rust strain, was developed by Agriculture Canada in 1953. The scientists have to keep identifying aggressive wheat rust

strains that appear and plant breeders have to try to breed new resistant strains of wheat. The process goes round and round and never ends. But Canadians enjoy first class wheat from Canadian farms, and wheat exports to other nations provide good food for millions.

Story of canola development

Another Canadian agricultural success story is canola. The original seed for this wonder crop actually came from Poland. In 1936 a farmer in Saskatchewan began to grow this oil seed which he had brought from his native Poland. Soon he was selling some of this seed for animal feed. There were other farmers growing a strain from the United States too. In 1956 an agribusiness company developed a method to extract oil from the seed. There was a problem however, two minor components of the oil turned out to have bad effects on human and animal health. Plant breeders began to look for ways to eliminate these bad products from the oil.

In 1977 the first canola strain was developed by breeding. The definition of canola is a "double-low" variety with both reduced erucic acid and glucosinolate levels . For this new crop the name canola was chosen. It is a combination of Canadian and oil. Much of the research on canola was conducted, and continues to be conducted, in Saskatchewan. The value of the Canadian crop has escalated dramatically since the 1970s and exports of canola oil are only exceeded by Canadian wheat. Not only does canola provide farmers with another crop choice, but the oil provides excellent nutrition to consumers like us.

Impact of Farming

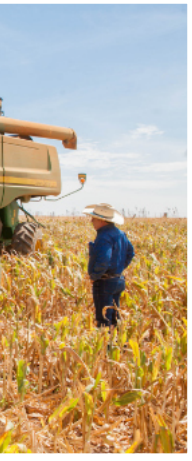
These are positive stories, chosen to illustrate the importance of agriculture to Canadians. Some other people however emphasize negative impacts of agriculture. These crops are **monocultures,** only one species growing over a wide area. Because many similar plants are crowded together, a monoculture is much more susceptible to diseases (like wheat rust) and insect consumption (like flea beetles on canola). Especially for insects, spraying with insecticides may be necessary to save the crop. To avoid most flea beetles on canola, the seeds are routinely coated with insecticides before they are planted. Government rules are very strict about what insecticides can be sprayed on a crop and when. If spraying is not carried out carefully, there may be negative unintended impacts on other insect species.

Another impact of monocultures is reduced diversity in the immediate area of the farm. Typically, there are no native plants and few native animals on the cropland. Another impact of growing a crop is the need for fertilizers to encourage good plant growth. Some fertilizers may run off the land at times of high rainfall. This may cause pollution (increased eutrophication) in nearby lakes. Meat and egg production also may result in considerable run off causing water pollution. Even fish farms result in higher nutrient levels in water leading to eutrophication. [**Eutrophication** represents a shift in what algae and aquatic animals are present in a body of water. There will be an increase in the numbers and variety of kinds of organisms present as a result of higher levels of nitrates and phosphates in the water. These plant nutrients can come from fertilizers or from animal manure. Depending upon the body of water, eutrophication is not necessarily a problem.]

Future of agriculture

Do all these considerations mean that we should stop carrying out agriculture? Of course not! It simply means that we should proceed as carefully as possible. Research scientists working for federal Canadian and provincial governments, continue to research more efficient crops and better resistance to diseases and pests, in short, better ways to do things.

Do humans have an impact on nature? Absolutely! Is it possible for humans to stop having an impact on nature? No. Our mandate as Christians is to do things as carefully as possible while providing for all the people living today.



Wonderful and Bizarre Life Forms in Creation

Jerry Bergman

Discover this collection of amazing creatures that illustrate the enormous variety of God's creation. The selection includes some popular animals such as pandas, koala, elephant, giraffe, camel and penguins as well as some totally weird creatures. Explore the details concerning each creature as well as the serious problems each presents for evolution theory.

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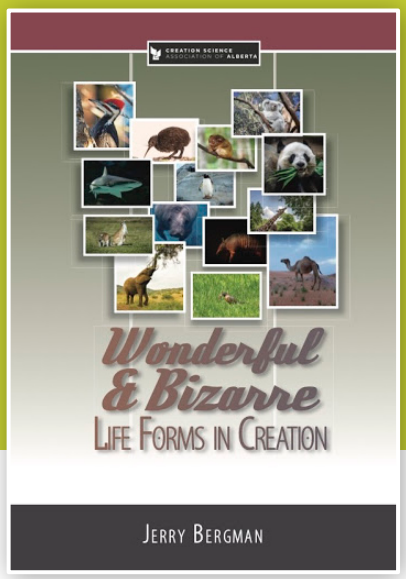

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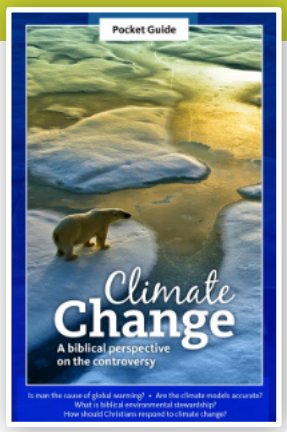

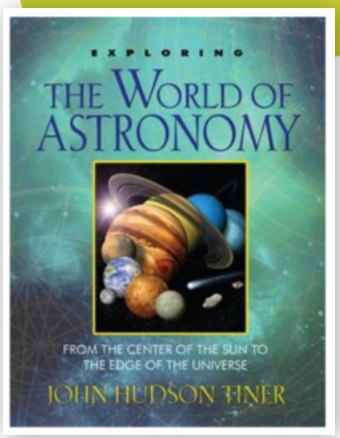

Exploring the World of Astronomy

John Hudson Tiner

This book is thought provoking and interesting, but not too hard. Sometimes discussions on astronomy involve a lot of abstract theory. Not this book. The details are worth absorbing and good questions make for wonderful interactive learning, especially geared to junior high students, grades 7-9.

Paper/line drawings/72 pages

$14.00

Pocket Guide to Climate Change

AiG authors

Social conflict over climate change is something that Christians cannot afford to ignore. While we all agree that we must treat our environment with care and respect, our mandate is to "contribute knowledgeably to the discussion and care for God's creation in a way that recognizes man as the height of his created order." (p. 59) This booklet provides information and graphs to assist us with the need to be knowledgeable and caring.

Paper/colour/95 pages

$6.00

God Created Monkeys

ICR authors

We all respond positively to animals with cute faces! Monkeys are definitely in this cute category. But there is also a lot of learn about these captivating animals! This booklet combines an appeal to young children with interesting details about monkey biology. The discussion makes clear that these creatures were definitely created!

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